

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Implementation of Section 210 of the	)	MB Docket No. 05-181
Satellite Home Viewer Extension and	)	
Reauthorization Act of 2004 to Amend	)	
Section 338 of the Communications Act	)	

**REPLY OF THE  
ABC, CBS, AND NBC TELEVISION AFFILIATE ASSOCIATIONS  
IN SUPPORT OF THE OPPOSITION OF THE  
NATIONAL ASSOCIATION OF BROADCASTERS TO  
PETITIONS FOR PARTIAL RECONSIDERATION**

The ABC Television Affiliates Association, the CBS Television Network Affiliates Association, and the NBC Television Affiliates Association (collectively, the “Network Affiliates”), by their attorneys, submit this reply in support of the Opposition filed by the National Association of Broadcasters (“NAB”) to the Petitions for Partial Reconsideration submitted by DIRECTV, Inc. and by EchoStar Satellite, L.L.C. to the *Report and Order* (“*Order*”), 20 FCC Rcd 14242 (Aug. 23, 2005), in the above-referenced proceeding.<sup>1</sup>

As an initial matter, the Commission should dismiss both Petitions since neither meets the threshold requirement for Commission reconsideration. It is well-settled that “petitions for reconsideration are not granted for the purpose of debating matters which have already been fully

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<sup>1</sup> The Network Affiliates collectively represent approximately 600 local television stations affiliated with the ABC, CBS, and NBC Television Networks. Each association has member stations in the states of Alaska and Hawaii.

considered and substantively settled.”<sup>2</sup> Neither DIRECTV nor EchoStar presents any arguments to the Commission that it did not fully consider in the *Order*. Both parties merely take issue with the legal and policy conclusions reached. In addition, neither party meets the standards in Section 1.429(b) of the Commission’s rules to reopen debate based on new facts. Not only do DIRECTV and EchoStar fail to provide sufficient new facts to warrant reconsideration, but neither petitioner presents any new facts that were unknown and could not have been known during the course of the rulemaking proceeding itself. The petitioners were given a full opportunity to comment, all relevant matters were fully considered, and the Commission made its policy choices to ensure that the needs of the public and all interested parties were fully taken into account.<sup>3</sup>

**I. There Is No Merit to DIRECTV’s and EchoStar’s Claims That the Commission’s Implementation of Section 338(a)(4) Is Overly Burdensome or Will Require That Capacity Be Diverted to Alaska and Hawaii**

Not only is the Commission’s determination that Section 338(a)(4) of the Communications Act requires that DIRECTV and EchoStar provide full digital carriage of all local stations in Alaska and Hawaii supported by the clear language of the statute, but there is no reason to reconsider and impose a contrary interpretation of the language due to factually unsupported and meritless claims of capacity constraints by the petitioners. As NAB showed in its Opposition, full HD and multicast carriage of all local stations in these two states will require no more than 2.3% of the capacity of just

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<sup>2</sup> *Regulatory Policy Regarding the Direct Broadcast Satellite Service*, 94 FCC 2d 741 (1983), ¶ 11.

<sup>3</sup> *See id.* at ¶ 12.

two of DIRECTV's satellites (Spaceway 1 and Spaceway 2).<sup>4</sup> In fact, that estimate is quite conservative and does not provide a complete picture of the minimum degree of capacity required for full digital carriage in Alaska and Hawaii, not only because it intentionally puts aside the efficiencies gained through other available technologies, such as statistical multiplexing, but also because it does not consider the remainder of the capacity of DIRECTV's vast satellite constellation.

DIRECTV has repeatedly touted to the Commission its ability to provide satellite service to Alaska and Hawaii. Thus, in its application for DIRECTV 9S, DIRECTV not only boasted of the satellite's 30% increase in capacity from the use of 8PSK modulation but expressly pointed out, *twice*, that "subscribers in Alaska and Hawaii will receive a significantly stronger signal from DIRECTV 9S."<sup>5</sup> In its application for DIRECTV 10, DIRECTV stated that "DIRECTV 10 will use a national coverage beam to provide robust coverage to all 50 states, providing the same variety of national HD programming to viewers in Alaska and Hawaii as it provides to the mainland. The satellite will also support 49 spot beams carrying local-into-local HD programming, *including beams covering Alaska and Hawaii.*"<sup>6</sup> In its application for DIRECTV 11, DIRECTV stated the exact same thing.<sup>7</sup> Subsequently, in a letter to the Commission, DIRECTV clarified that "[e]ach of these satellites [DIRECTV 10 and DIRECTV 11] has a dedicated spot beam covering Hawaii. . . . In addition, two more Ka-band transponders on DIRECTV 11 can be used in the same beam for the

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<sup>4</sup> See NAB's Opposition, Engineering Statement, at 6.

<sup>5</sup> File No. SAT-RPL-20050322-00070, Application, Exhibit D, at A-5; *see id.* at A-2.

<sup>6</sup> File No. SAT-LOA-20040909-00169, Application, Exhibit 43, at 4-5 (emphasis added).

<sup>7</sup> See File No. SAT-LOA-20040909-00168, Application, Exhibit 43, at 4.

retransmission of local broadcast signals to subscribers in Hawaii.”<sup>8</sup> In modification applications for Spaceway 1 and Spaceway 2, DIRECTV provided an exhibit showing spot beam coverage of both Alaska and Hawaii for both satellites.<sup>9</sup> Thus, DIRECTV will have capacity from at least five of the latest generation of satellites to provide full digital carriage of local stations in Alaska and Hawaii. It thus is apparent how very conservative NAB’s estimate of capacity burden for full digital carriage really is.

The satellite coverage and capacity for EchoStar is just as optimistic. In its application for EchoStar-157W, EchoStar claimed that, “[a]s reflected in the beam patterns of the proposed satellite, coverage to Alaska and Hawaii will be excellent. With this additional satellite, EchoStar will be able to offer its Alaska and Hawaii subscribers more HDTV offerings . . . .”<sup>10</sup> In its modification application for EchoStar-121W, EchoStar noted that, “[d]ue to its westerly location, the 121°W.L. slot allows services to be provided to Alaska and Hawaii,” and it showed three spot beams covering Alaska and one spot beam covering Hawaii.<sup>11</sup> In its application for EchoStar-113W, EchoStar also noted, “[d]ue to its westerly location, the 113°W.L. slot allows for services to be provided to Alaska and Hawaii,” and EchoStar showed two spot beams covering Alaska and one spot beam covering Hawaii.<sup>12</sup> Finally, in its modification application for EchoStar-117W, EchoStar observed that from

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<sup>8</sup> Letter from William M. Wiltshire to Marlene H. Dortch, File Nos. SAT-LOA-20040909-00168 and -00169, SAT-AMD-20050103-00001 and -00002 (filed Jan. 26, 2005).

<sup>9</sup> See File No. SAT-MOD-20040614-00114, Application, Appendix B, at Figure B-3.1 (Spaceway 1); File No. SAT-MOD-20040614-00113, Application, Appendix B, at Figure B-3.1 (Spaceway 2).

<sup>10</sup> File No. SAT-LOA-20040917-00184, Application at 6.

<sup>11</sup> File No. SAT-MOD-20050617-00127, Application at A-2; *see id.* at A-4, Figure A.5-1.

<sup>12</sup> File No. SAT-LOA-20040803-00154, Application, Attachment A at 2; *see id.* at 5, (continued...)

this location the satellite would provide “good service to Hawaii and significant parts of Alaska.”<sup>13</sup>

These statements in their satellite applications show how hollow are DIRECTV’s and EchoStar’s current claims of their inability to provide service to Alaska and Hawaii or of their need to divert other capacity to provide service to these two states.

The fact of the matter is that both DIRECTV and EchoStar will have more than sufficient bandwidth to carry the full digital signal of every local television station entitled to mandatory carriage in the United States, despite the unsupported assertions of DIRECTV and EchoStar to the contrary.<sup>14</sup> The bit rate of a television station’s ATSC MPEG-2 digital signal cannot exceed 19.39 Mbps. The satellite carriers, however, have already announced their intention to utilize MPEG-4 AVC compression technology, and DIRECTV is already selling appropriate hardware to consumers.<sup>15</sup> With MPEG-4 AVC, all of the information contained in a television station’s digital signal can be retransmitted with a maximum bit rate of 9.7 Mbps. The bandwidth  $B$  required to retransmit a known bit rate stream  $R_b$  is given by the following formula:

$$B = (1 + \alpha) \cdot R_b / (m \cdot r)$$

where  $\alpha$  is the spectral shaping factor,  $m$  is the number of bits per symbol, and  $r$  is the Forward Error

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<sup>12</sup>(...continued)  
Figure A.5-1.

<sup>13</sup> File No. SAT-MOD-20041008-00196, Application at 2; *see id.* at Technical Annex, Figure A.2-1 (figure showing coverage of Alaska and Hawaii)..

<sup>14</sup> *See* DIRECTV Petition at 12 (stating that “it is inconceivable that DIRECTV will have the capacity to carry all multicast and HD signals in all U.S. markets by that point [June 2007]”); EchoStar Petition at 13 (stating that “it is inconceivable that EchoStar will have the capacity to carry all multicast and HD signals in all U.S. markets by that point [June 2007]”).

<sup>15</sup> It is also worth observing that both satellite carriers have a very small base of established customers in Alaska and Hawaii, and it will, accordingly, be straightforward to convert existing and new subscribers in these markets to MPEG-4 hardware.

Correction (“FEC”) rate. Therefore, the bandwidth required to retransmit the full digital signal of a single television station when that signal is remodulated using 8PSK modulation is 5.6 MHz.<sup>16</sup> This means that, theoretically, the total bandwidth needed to retransmit the full digital signal of each of the 29 local stations in Alaska and Hawaii is approximately 163 MHz. More significantly, the total bandwidth needed to retransmit the full digital signal of *every* local station in the United States is approximately 9000 MHz.<sup>17</sup> Just one Spaceway satellite has 12,000 MHz of bandwidth available.<sup>18</sup> With frequency reuse factors of 10 to 12, it is easy to see that, across the full constellations of satellites of DIRECTV and EchoStar already in orbit or being built, each company has tens of thousands of MHz of bandwidth. A reasonable assumption is that no more than one-fifth of that total bandwidth would be necessary to retransmit the full digital signal of every local television station in America, leaving four-fifths of the bandwidth capacity for national digital programming and other services. And seen in this light, the bandwidth required just for Alaska and Hawaii is essentially *de minimis*.

EchoStar also argues, without any support, that carriage of full HD and multicast signals may

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<sup>16</sup> A typical value for  $\alpha$ , the spectral shaping factor, is 0.2, assuming 20% raised cosine filtering;  $m = 3$  with 8PSK modulation; and the FEC rate is 0.691, which is 3/4 (Viterbi Coding) x 188/204 (Reed Solomon).

<sup>17</sup> According to the Commission’s latest tally, there are 1749 full power television stations. *See Broadcast Station Totals As of September 30, 2005*, DA 05-3149 (Dec. 8, 2005). Of these, 132 are satellite stations, *see* TELEVISION & CABLE FACTBOOK 2006 at C-2 to C-3, ineligible for mandatory carriage pursuant to 47 U.S.C. § 338(c)(1). That leaves at most 1617 stations potentially eligible for mandatory carriage, although some unknown number of the 379 NCE television stations would also be ineligible for mandatory carriage pursuant to 47 U.S.C. § 338(c)(2). The bandwidth required to retransmit the full digital signal of 1617 television stations is 1617 x 5.6 MHz, which is approximately 9000 MHz.

<sup>18</sup> *See* NAB’s Opposition, Engineering Statement, at 6.

somehow “hamper EchoStar’s use of ‘statistical multiplexing.’”<sup>19</sup> This type of groundless assertion is indicative of why these Petitions fail to meet the basic threshold for Commission reconsideration. What this vague claim exactly means is not clear, but it is well-known that statistical multiplexing *increases* the efficiency of bandwidth utilization, and encoders, designed specifically for use by satellite carriers, are currently available that seamlessly allow the statmuxing of HD and SD transport streams in the same pool. An example of such an encoder is Harmonic’s DiviCom MV 3500 Multi-Codec High Definition Encoder. Harmonic states that the encoder was

[d]esigned primarily with the needs of satellite and telco service providers in mind . . . allow[ing] direct-to-home satellite operators to quickly and efficiently launch new HD services, combining several MPEG-4 HD channels in a single statistical multiplex. *Grouping channels for a given market together can provide significant satellite capacity savings.* . . .

HD/SD statistical multiplexing—The MV 3500 can be included in a VBR [variable bit rate] statistical multiplex using either DiviTrackXE or DiviTrackIP, the industry’s first statistical multiplexing solution that supports the dynamic participation of HD video, SD video, and data in a single pool . . . .<sup>20</sup>

The Commission no doubt recalls how DIRECTV and EchoStar argued (unsuccessfully) that dire capacity constraints imperiled the provision of local-into-local service to fewer than a hundred markets unless their merger were allowed. Yet in the absence of this merger, and just three years later, EchoStar currently offers local-into-local service in nearly 170 markets and DIRECTV in nearly 140 markets. This history, combined with the utter lack of evidentiary support in this proceeding, supports the Commission’s conclusions in the *Order* that insufficient satellite capacity

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<sup>19</sup> EchoStar Petition at 12.

<sup>20</sup> See DiviCom MV 3500 Data Sheet, *available at* <http://www.harmonicinc.com/stageone/files/harmonic/collateral/MV3500%5Fv05%2D08%5FRS%2Epdf> (visited Dec. 15, 2005) (emphasis added).

is not a valid constraint dictating the implementation of Section 338(a)(4).

## **II. Without Factual Support, There Is No Basis for DIRECTV's and EchoStar's Constitutional Arguments**

The Commission's *Order* does not violate the First Amendment. In the *Turner* cases, the Supreme Court upheld as constitutional a must carry requirement for cable carriage of an analog television station that required approximately 1.3% of a cable system's bandwidth capacity.<sup>21</sup> By way of contrast, the bandwidth requirement of a single television station's full digital signal (5.6 MHz) in Alaska or Hawaii is only a tiny fraction of one percent (0.047%) of the capacity of just one Spaceway satellite (12,000 MHz). In fact, the capacity burden for carriage of *every* local television station's full digital signal in Alaska (or in Hawaii) is actually less than the capacity burden for a *single* analog station upheld in *Turner*. It is obvious, therefore, that the burden of carriage of one station's full digital signal is of no constitutional moment. Moreover, the Commission fully articulated the important governmental interests served by requiring full digital carriage of HD and multicast signals,<sup>22</sup> and the petitioners have not demonstrated that those interests are a sham, are unimportant, are somehow related to the suppression of free speech, or, most obviously in light of the real facts of the matter, burden substantially more speech than is necessary to further the articulated interests.

There is also no merit to DIRECTV's and EchoStar's airy attempts to assert an unconstitutional taking. Legal precedent is well-settled that the type of restriction on use that the

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<sup>21</sup> An analog television station requires 6 MHz of bandwidth on a cable system, and a typical analog cable system had a bandwidth capacity of around 450 MHz, so that the mandatory carriage of a single analog station constituted approximately  $6 \div 450 = 1.3\%$  of the cable system's bandwidth.

<sup>22</sup> See *Order* at ¶¶ 18-22.



Commission's implementation of full digital carriage in Alaska and Hawaii would impose on the two satellite carriers is not a taking nor constitutionally suspect. Thus, in *Western Union Tel. Co. v. City of Richmond*, 224 U.S. 160 (1912), Justice Holmes, the architect of modern takings jurisprudence, writing for a unanimous court, expressly rejected an argument from a telegraph company that its property had been taken by regulations that required the company to permit the government to place its wires on the company's telegraph poles free of charge, provided the city's demands were reasonable.<sup>23</sup> Subsequently, the cable industry's similar taking argument was rejected long ago as well.<sup>24</sup>

In any event, the petitioners takings argument fails under both *Loretto v. TelePrompster Manhattan CATV Corp.*, 458 U.S. 419 (1982), and *Penn Central Transp. Co. v. New York City*, 438 U.S. 104 (1978), as shown by NAB in its Opposition. Without repeating NAB's arguments here, it is worth making some additional observations about the "very narrow" holding in *Loretto* in which the Court only held that a "*permanent physical occupation* of property is a taking."<sup>25</sup> First, there is no indication that the *Loretto* framework can be applied to anything but *real* property. All of the cases relied upon in *Loretto* involved physical invasions or occupations of *real* property. The requirements of the Commission's *Order* do not constitute an occupation of real property. Indeed,

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<sup>23</sup> Cf. *City of St. Louis v. Western Union Tel. Co.*, 148 U.S. 92 (1893) (finding also unproblematic a city ordinance requiring any company erecting poles to permit the city to occupy and use, free of charge, the top cross arm of any pole erected).

<sup>24</sup> See *Black Hills Video Corp. v. FCC*, 399 F.2d 65, 70 (8th Cir. 1968); see also *United States v. Midwest Video Corp.*, 406 U.S. 649, 659 n.17 (1972) (approving the holding of *Black Hills*).

<sup>25</sup> *Loretto*, 458 U.S. at 441 (emphasis added). Network Affiliates support NAB's arguments that the Commission's full digital signal carriage requirement in Alaska and Hawaii does not constitute a regulatory taking under *Penn Central*.

a satellite itself is not real property but personality.<sup>26</sup>

*Second*, the full digital signal carriage requirement here is not a “physical” occupation at all. As the *Loretto* Court recognized, “[t]he placement of a fixed structure on land or real property is an obvious fact that will rarely be subject to dispute.”<sup>27</sup> The fact that here one must question how a carriage obligation can be transmuted into a physical occupation compels the conclusion that the “obvious fact” of physical occupation is lacking, and, thus, an essential predicate for *Loretto*’s applicability is absent.

*Third*, and finally, the Commission’s carriage requirement does not constitute a *permanent* physical occupation. The satellite bandwidth utilized by digital multicast streams provides for the transmission of information through electromagnetic waves at the speed of light. If the information, or the electromagnetic wave, were fixed or permanent, the transmission system would fail.

In sum, neither DIRECTV nor EchoStar presents any constitutional argument of any merit that would warrant the Commission’s reconsideration of the constitutional analysis set forth in the *Order*.

## **Conclusion**

For the foregoing reasons, the Network Affiliates respectfully request that the Commission dismiss or deny the Petitions for Partial Reconsideration filed by DIRECTV and EchoStar.

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<sup>26</sup> The Supreme Court has itself refused to expand *Loretto* beyond a “permanent physical occupation” of “real property.” See *United States v. Sperry*, 493 U.S. 52, 62 n.9 (1989) (rejecting expansion of *Loretto* to money); cf. *Yee v. City of Escondido*, 503 U.S. 519 (1992) (stating that “[t]he government effects a physical taking only where it requires the landowner to submit to the physical occupation of his *land*” (emphases altered)).

<sup>27</sup> *Loretto*, 458 U.S. at 437.

Respectfully submitted,

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December 19, 2005

## Certificate of Service

The undersigned, of the law firm of Brooks, Pierce, McLendon, Humphrey & Leonard, L.L.P., hereby certifies that s/he has caused a copy of the foregoing **Reply of the ABC, CBS, and NBC Television Affiliate Associations in Support of the Opposition of the National Association of Broadcasters to Petitions for Partial Reconsideration** to be placed in the U.S. Mail, first-class postage prepaid, addressed as follows:

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This the 19th day of December, 2005.

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